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January 3, 1995

MEMORANDUM

TO: Regional Director, Lower Colorado Regional Office, Bureau of Reclamation,
Boulder City, Nevada

FROM: Regional Director

SUBJECT: Hoover Dam Powerplant Upgrading, Mohave County, Arizona.

The Fish and Wildlife Service (FWS) has reviewed the material sent to us by the Bureau of Reclamation (BR) that updates the biological assessment dated April 20, 1994 for the operation of Hoover Dam powerplant now that the uprating of the existing turbines has been completed. This consultation has a long and complex history, with both extensive changes to the project under consultation and the listing of new species as endangered and the designation of critical habitat in Lakes Mead and Mohave.

The species of concern in this consultation are the endangered bonytail chub (Gila elegans) and razorback sucker (Xyrauchen texanus). Critical habitat for both species is found in Lake Mohave and for the razorback sucker alone in Lake Mead. In designating critical habitat for these two endangered fish species, the FWS acknowledged the importance to species survival of the remaining stocks of both species maintained in Lake Mohave. The FWS recognizes that reservoirs are not natural habitats for these endangered fish, and that these populations are not self-sustaining. However, the bonytail chub and razorback sucker populations in Lake Mohave are the largest remaining for either species in the Colorado River Basin. Their importance, even under the present circumstances, cannot be underestimated.

It may be of value to review the history of this consultation. Options to increase power generating capacity at the Hoover Powerplant have been explored by BR since the late 1970's. On March 6, 1980, the BR sent the FWS an evaluation of effects to endangered species from the proposed Hoover Powerplant Modification (Hoover Mod) project and rewinding of existing generators. The BR found no impacts to listed species (the bonytail chub and razorback sucker were not then listed) and the FWS concurred with that finding.

On December 19, 1980, the BR provided a supplement to the assessment of March 6, 1980. The assessment dealt specifically with the recently listed (April 23, 1980) bonytail chub and the proposed threatened razorback sucker. The BR made a determination of no effect to these species and the FWS concurred in a memorandum dated December 30, 1980. The proposal to list the razorback sucker as threatened was later withdrawn due to procedural problems and was not immediately repropoed.

In 1981 changes to projected power generation peaks and water releases resulted in a new assessment of effects to the bonytail chub. The assessment indicated the species might be affected by the proposed action. The BR requested formal consultation with the FWS Regional Office in Albuquerque, New Mexico on October 16, 1981. The consultation was extended once and the FWS issued a biological opinion on April 1, 1982. The biological opinion found that the proposed project, including the generator rewinding program, was not likely to jeopardize the continued existence of the endangered bonytail chub. That opinion was based on data indicating that the bonytail chub population in Lake Mohave was a relict, non-recruiting population. The BR began the generator rewinding program after receiving the opinion. Construction on the proposed powerhouse was not begun.

On January 12, 1990, BR requested an updated list of species for the proposed powerhouse project. The list included the endangered bonytail chub, peregrine falcon (Falco peregrinus), bald eagle (Haliaeetus leucocephalus), and Mohave desert tortoise (Gopherus agassizii). The list also noted the presence of the razorback sucker, soon to be proposed as endangered. The BR sent their Biological Assessment (BA) to the FWS on March 6, 1990, requesting concurrence from the FWS on a finding of no effect to any listed or proposed species from the Hoover Mod project. The FWS responded on April 30, 1991, that it could not concur with the finding of no effect. A meeting with appropriate parties to identify data gaps in the biological assessment and define the issues of concern was suggested. This meeting was held on July 22, 1991. The BR requested formal consultation on Hoover Mod on October 30, 1991. An expanded BA that addressed the issues of concern raised at the July meeting was not provided by BR to the FWS. Soon afterward, in a telephone conversation on December 11, 1991, BR informed FWS that the construction of the new powerhouse would not be pursued at this time, but BR indicated they wished to continue with the consultation. On December 20, 1991, the FWS requested an extension of the consultation period to April 1, 1992. In a memorandum dated January 8, 1992, BR agreed to the extension with the condition the FWS provide a draft biological opinion to BR by March 2, 1992. The FWS requested an additional 90-day extension on February 28, 1992, with the BR agreeing to such if a draft opinion was provided by May 29, 1992 and a final by June 29, 1992. A biological opinion was drafted but never sent to BR or finalized.

On September 10, 1993, BR requested a withdrawal of the consultation on the proposed powerplant since that project was no longer under active consideration. The uprating had received a biological opinion in 1982. The FWS advised BR that consultation for the uprating was needed for the razorback sucker since it was listed prior to the completion of the project. After a meeting on November 23, 1993 with FWS, BR agreed to consult. An updated species list was sent on February 10, 1994 and the revised biological assessment (BA) was transmitted to the FWS on April 20, 1994. A series of meetings and discussions about the BA were held, culminating in the revision of the BA dated November 2, 1994 being sent to the FWS from BR. This BA contained a request for FWS concurrence with a finding of no effect to listed species and no destruction or adverse modification of designated critical habitat. The FWS does not concur with these findings.

The construction and continued presence of Hoover Dam on the lower Colorado River has had significant effects to the river ecosystem and the species that were part of that system. Hoover Dam was completed long before the Endangered Species Act of 1973 came into being, but management of the dam and powerplant remains under BR control. It is the presence of the dam both in the baseline and historic record as well as the source of the

project under consultation that contributes to the complexity of this consultation. The FWS does acknowledge that the actual physical effect of the uprating to Lake Mohave (in terms of water release patterns and limnological effects) is likely to be small and difficult to measure and that determining effects from this change to the endangered fish species may not be possible. However, the FWS also recognizes that the presence and operation of Hoover Dam continues to affect endangered fish species. Some examples of these effects include:

1. Cold water temperatures in the only remaining riverine section of the reservoir reduce the use of this section, especially by bonytail chub.
2. Maintenance of Lake Mohave as a regulating reservoir provides a place for non-native fish to develop sizable populations. Management (including stocking of non-native gamefish and bait fish) of the recreational fishery encourages the presence of non-native fish species known to prey on bonytail chub and razorback sucker eggs and larvae.
3. Natural food resources for larval endangered fish may not be present at pre-dam levels or species compositions. The recent work on fed versus un-fed larval survival raises several points for further investigation.
4. Both species are largely trapped within the reservoir with migration paths disrupted. While some downstream movement may occur, without human intervention there can be no upstream migrations.

Determining how to factor the presence of Hoover Dam into the present consultation raises the overall question of man-caused changes to the lower Colorado River that have taken place since the mid-1800's. The pre-projects condition has been massively altered by the development of dams, diversions, channelization projects and other activities that make up the existing conditions. Hoover Dam cannot be assessed in isolation from these other developments.

The FWS understands that BR is presently assessing the effects of its ongoing operations on the lower Colorado River on endangered species. This effort has the potential to address all of the development along the river in one coherent package dealing with the ecosystem, not with one small piece of the river. However, in order for this effort to fully address the effects of development, defining the "baseline" conditions against which the ongoing operations are evaluated is necessary. The FWS believes there are two approaches that can be used to define the baseline.

The first is to set the baseline at the historic, pre-development conditions along the lower Colorado River and assess the effects (individual and cumulative) of actions since then. Ongoing operations then factor into the timeline as either new or continuing effects. The second is to set the baseline at an arbitrary recent date, thus including the effects of all previous activities in the past by describing what has already been changed or lost. This approach does not diminish the effects of past activities, nor does it "grandfather" in those existing projects. It just allows a different way to look at the overall problem. Either approach would accomplish the goal of assessing the effects of development on the lower Colorado River on endangered and threatened species.

The FWS and BR recently agreed on a voluntary water level management plan for Lake Mohave. This action would assist in the recovery of the razorback sucker by promoting the ongoing cove rearing program. The fact that the FWS agreed with this action cannot be extended beyond the specifics of the plan to infer any approval of the physical structures involved (Hoover Dam, Lake Mohave, and Lake Havasu). The situation with the present consultation is very similar.

Although the FWS does not believe a finding of no effect is appropriate for the uprating in the existing Hoover Dam powerhouses, we do believe that a finding of may affect, not likely to adversely affect is appropriate. This finding comes with some restrictions, specifically that the finding refers only to the project under discussion in the BA and not to the overall operation of Hoover Dam or any other lower Colorado River facility. The changes that may occur from the additional peaking power available are very difficult to discern amid the larger picture of effects to the bonytail chub and razorback sucker. The FWS is assuming that whatever changes may or may not occur as a result of the increased releases do not add or subtract measurably to the effects that are already in place. In summary, this project likely does not improve or worsen an already serious situation for the endangered fish in Lake Mohave. Under the new operations schedules, effects, especially to recovery, will continue to occur. The FWS wants to be very clear that this may affect, not likely to adversely affect, finding does not constitute section 7 clearance for the overall presence and operation of any facilities or programs on the lower Colorado River. It applied solely to the changes to release levels made possible by the uprating of the existing turbines. It does not cover the effects of having Hoover Dam or the powerplant present on the river.

The FWS understands that some of the issues and discussions in this memorandum may raise questions. The request from BR was for concurrence with a finding of no effect, as we have stated, we cannot concur with such. We have suggested a finding we believe is appropriate. If, after review, BR would like to specifically request a finding of may affect, not likely to adversely affect for the uprating alone, the FWS would concur with that finding if the project remained the same as described in the BA and amendments.

Thank you for the opportunity to evaluate this project. If we can be of further assistance, please contact Ted Cordery or Lesley Fitzpatrick.

/s/ Sam F. Spiller

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